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NEW YORK, SATURDAY, SEPTEMBER 29, 1923

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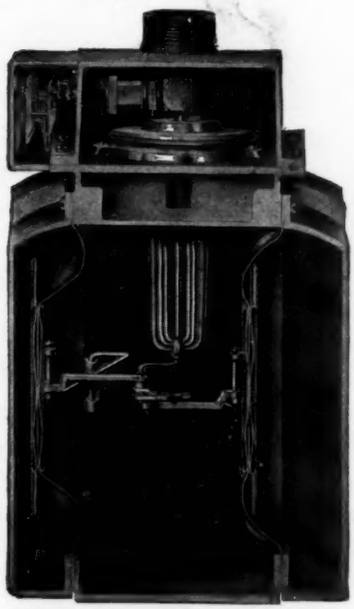

Standard Line
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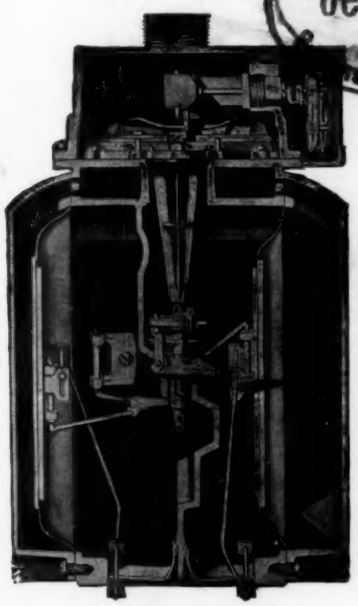

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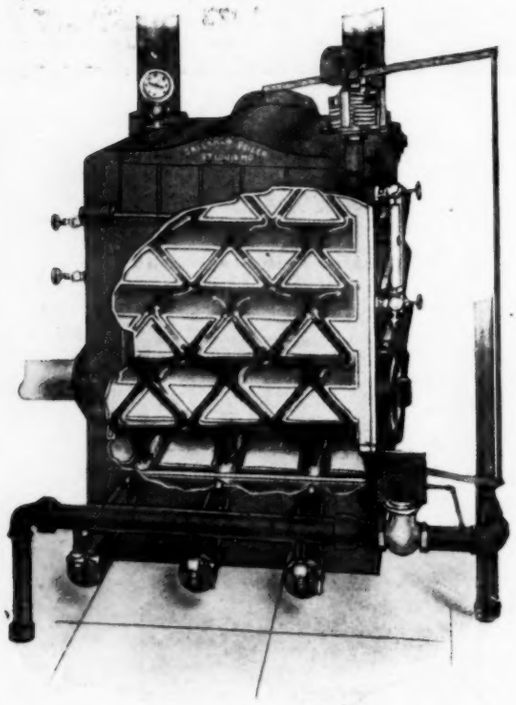
Other Gas Companies Are Doing It!



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TO educate the masses to the convenience, cleanliness, economy, wastelessness, safety and all the other virtues of house heating by gas, will take time and patience; but if the start is not made the goal will never be reached.

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The present time is most propitious for forcibly presenting the advantages of heating by gas, on account of the unsettled conditions in the coal industry with the possible shortage of this fuel next winter, and householders are therefore in a more receptive mood for improved gas appliances, such as the Gallaher Boiler and Storage Tank Heater.

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Laclede Gas Building, St. Louis, Mo.

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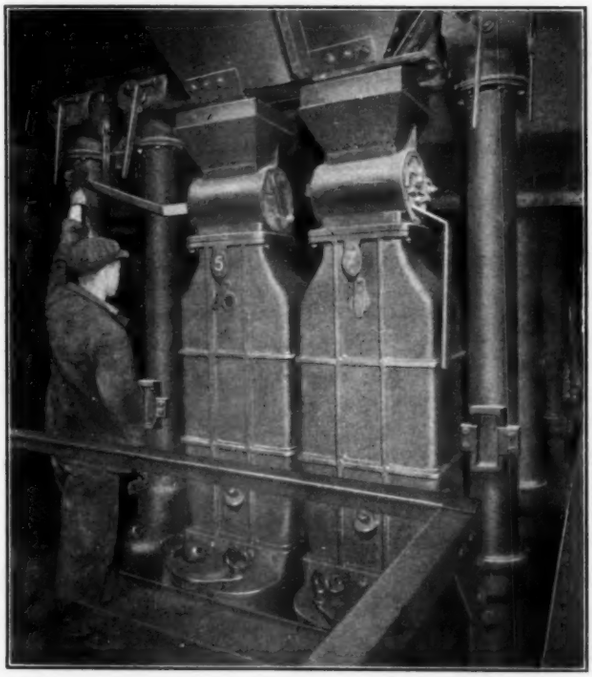
Will successfully carbonize every quality of coal



The illustration shows the Coal Feed Boxes and Gas Offtakes at the Stack Level.

In the Glover-West continuous carbonization system, the boxes on top of the retorts hold two hours' supply of coal and are filled by the simple operation of a hand lever. The speed of extraction of the coke governs the rate of coal passage through the heated zone. Chambers below the retorts hold two hours' make of coke and the operation of discharging is by opening the door and allowing the coke, which has already been cooled by the secondary air, to drop into a wagon or conveyor.

From our present stage of actual experience in the working of large and small installations of Glover-West system of continuous vertical retorts, with a great variety of coals in all parts of the world, it is difficult to realize the diffidence with which the idea was received when first put forward as a practical proposition. Now that it is established that the continuous vertical retort system can be designed and worked to deal with any class of coal, and to yield in gaseous form a considerably greater percentage of the heat value of the coal than the older systems—and percentages varying not only according to the quality of the coal, but according to the discrimination of the engineer—continuous carbonization makes an irresistible appeal.

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SIXTY FIFTH YEAR

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The Fuel of the Future—What Shall it Be?

III. The Combustion of Gas—Definition of Units

Ismar Ginsberg

In previous articles, which have appeared in the American Gas Journal, the author developed his argument to the point where of all the fuels that are available for use in the industries and in the home, there remains just one, gas, which has been shown to possess the property of yielding its heat at the highest efficiency. In other words, gas is the most economical fuel from the standpoint of utilization of its inherent fuel value. There are, of course, fuels that cost less than gas, but none of these can be used with so high a thermal efficiency as gas. The substitution of gas for these fuels, hence, assumes an economic and industrial aspect rather than a technical. It involves overcoming political conditions as well, and, furthermore, the local conditions, surrounding the gas plant and its industrial operation, must also be taken into consideration. Of this we shall have more to say later.

The Principles of Combustion

Our task in this article, the third of the series, is to lay down the fundamental principles of combustion, as they affect the burning of gas. It is a basic law of science that before any physical force can be expressed in understandable terms, so that greater or less manifestations of this force can be detected or measured, it is necessary to define these terms of measurement and understand just what they mean. In other words, when we say that a road is long and another is longer, we are told nothing at all unless we can define length in some manner, so that we can appreciate just how long the road is. Hence if we say the road was 5 miles long and the other was longer, we at least know that the second road was longer than 5 miles. We define and limit the conception of length by giving it a definite unit.

The same is true of combustion. We speak of temperature and of heat. These are the fundamental considerations of combustion. How much heat has a gas and what temperature does it give on burning? What is the difference between the two? Which is the more important and which must we use in determining the fitness of the gas for a given purpose, for heating a house or for melting a quantity of copper or brass?

Temperature and Heat

Heat is a form of energy. Wherever this energy is manifested, a change in temperature takes place. Temperature is just a means of differentiating between the different heat contents of bodies. Thus a body that is colder than another is said to be at a lower temperature. This does not mean, however, that the colder body need necessarily contain less heat than the warmer, which may seem paradoxical, but nevertheless it is a fact and it depends primarily on the definition of heat and temperature.

Temperature is the indication that the body contains heat, but it is just like the head of water in a waterfall. The head may be one hundred feet, but it is not possible to tell how much energy there is in the fall, until the quantity of water, that goes over the fall, is determined. Thus, there can easily be two falls of the same drop but with greater energies, due to the fact that different quantities of water go over them. Then again it is perfectly possible to have a fall with a smaller head or drop but with greater energy than one with a much greater head but within a correspondingly smaller fall of water. The total energy of the waterfall is dependent not only on the head but also on the mass of water that falls.

Two Units Involved

Thus there are two units involved in heat and in temperature. The heat unit, which measures the quantity of energy in a body, known as heat energy, is the British Thermal Unit, ordinarily written B.T.U. It is simply the amount of heat that is required to raise one pound of water one degree Fahrenheit, usually from 62 to 63 degrees F. It may also be expressed in different terms, and when called a calorie, the scientific unit, it represents the quantity of heat that is necessary to effect a change in temperature of one degree Centigrade in one gram of water. These definitions also indicate that there are two scales of temperature, the Fahrenheit and the Centigrade, each determined by the aid of the transformation from ice to water and from water to steam that is effected by the addition or removal of heat from a body of water.

Hence, if we say that the temperature of a piece of lead is 200 degrees F., it means very little. It does not tell us without involving calculation what quantity of heat there is in the body and hence what we can do with it, for example, how many pounds of water can be heated up with it. The more useful information is to know the quantity of heat contained in the metal, but this is generally not given, as it is possible with the help of specific heat tables to make this simple calculation.

Specific Heat

The fact that different bodies may have the same temperature and still contain greatly different quantities of heat gives rise to the use of another heat term, specific heat. While one B.T.U. will raise the temperature of one pound of water one degree F., it will accomplish a much greater rise in the temperature of one pound of lead, iron, copper, etc. The specific heat is the ratio of the number of heat units required to raise one pound or unit weight of a substance one degree of temperature to that required to raise unit weight of another substance (taken as standard) one degree of temperature. As water requires more heat units than any other substance, to raise its unit weight one degree F., its specific heat is taken as unity. Thus when a substance is said to have a specific heat of 0.5, it means that it will take half as much heat to raise its temperature one degree F. as the same weight of water. In the case of gases, the specific heat of air is sometimes taken as unity.

Definition of Other Heat Units

One substance may be hotter than another by virtue of the fact that it has been heated by being placed in a fire, that is, by being subjected to direct or indirect contact with another substance that is considerably hotter than it is. Heat will be transferred from one body to another, only when one is hotter than the other and the transference of heat will continue until both attain the same temperature, the cold body being heated up to this common temperature and the hot body being cooled down to the same. If a piece of stone or metal is heated, the temperature rises, but the substance still remains a solid piece of stone or metal up to within certain limits. When the metal is heated high enough, it melts and becomes a liquid. When water is heated, it becomes hotter and hotter and is finally converted into steam. When a pieec of coal, paper or gas flowing from a jet is heated up to a high enough temperature, the substance is ignited and burns. It itself then gives forth heat, which is due to a change in the nature of the substance, a change which causes the disappearance of the original substance and the formation of entirely new products.

It is necessary to understand the difference between these various manifestations of heat in order to appreciate the various phenomena that take place in the combustion of gas. It is possible to obtain heat from a substance that has been heated to a comparatively high temperature without bringing about any change in the same. Thus the fireless cooker works on the principle that when stones are heated to a relatively elevated temperature, the heat contained in them by virtue of this heating will be slowly evolved within the space of the cooker and gradually cook the food placed in it. Such heat, that one body transmits to another without there being any change in the state of the body, that is without its losing its original solid or liquid form, is known as sensible heat.

Latent Heat

Steam is made from water by heating the same to the boiling point, which is 212 degrees F., but the water will not be changed into steam, unless heat is continually added to it while it is maintained at that temperature. The temperature does not rise as long as there is any water present, but the heat is consumed in converting the liquid, water into the vapor, steam. This heat is known as hidden or latent heat of vaporization. When a metal is melted, the same phenomenon takes place. Thus to melt a pound of copper it is not only necessary to heat the copper up to its melting point, but to supply a sufficient amount of heat to convert the copper at that temperature from the solid to the liquid condition. Just heating the copper to the melting temperature does not melt it. This is again latent heat, that is hidden heat, so-called latent heat of fusion. The importance of understanding what latent heat is, will be realized at once in making a calculation of the amount of gas required to melt 1,000 pounds of copper, the copper being originally at room temperature.

Heat of Combustion

Our main concern is with the heat that is developed by combustion. It must be mentioned right at this point that while we have given the generic term "heat" different qualifying adjectives, such as "sensible," "latent," etc., we are still dealing with just one and the same kind of energy. All heat is the same; there is no such thing as different kinds of heat. The only difference is in the manner in which the heat is manifested, the way in which it is received or the origin of its generation.

Nature of Combustion

Combustion is the principal way of generating heat. When a body burns, heat is developed. This is quite a simple statement and easily understood by all, but the processes and changes that are involved in the combustion of fuel or any combustible, the regulation and control of the burning, so that the greatest possible good can be derived therefrom, the utilization of the evolved heat and of the various products that are set free during the combustion process, form a very complex and difficult science, with which we, as gas men, are intimately concerned.

A body burns because its temperature is raised to such a point that it will combine chemically with the oxygen in the air. There is a phenomenon known as slow combustion, in which combination of the body with this oxygen takes place slowly at ordinary temperatures, but this need not concern us here. Some substances, like coal, must be brought up to a relatively high temperature before they burn. Gas is immediately ignited as the lighted match is applied to it, issuing forth from the gas burner. Some

TABLE NO. 1
Relation Between Different Pressure Units

	Lbs. per Sq. Ft.	Lbs. per Sq. In.	Inches of Water	Inches of Mercury	Atmospheres	Millimeters of Mercury
Lbs. per sq. ft.	1	0.00694	0.19222	0.01414	0.000473	0.35912
Lbs. per sq. in.	144	1	27.68	2.0359	0.06804	51.7116
Inches of Water	5.202	0.3612	1	0.07349	0.00246	1.8670
Inches of Mercury	70.73	0.49118	13.61	1.	0.334	25.4
Atmospheres	2116.33	14.7	406.8	29.92	1	760
Millimeters of Mercury	2.784	0.01934	0.5352	0.03937	0.001316	1

liquids like gasoline and ether take fire at very low temperatures. When the burning is so rapid that the products of combustion, which are always gases and vapors, are unable to escape quickly and at the same time are evolved in enormous volumes within a very short space of time, we have what is known as explosion.

The combustion of fuel, then, yields a considerable amount of heat in the form of gases of combustion. It makes no difference whether the fuel is a solid, liquid or gas, the phenomenon is the same. In order to be able to tell what quantity of heat is liberated and how it is made available, it is necessary to understand the processes of combustion. In other words, what takes place when coal or gas, for example, burns.

The Volume of a Gas

Before this phase of combustion is discussed, it is necessary to consider the question of gaseous volume and the change that takes place in it due to variations in temperature and pressure. This is particularly necessary in that the main subject of discussion is the combustion of gas. A permanent gas differs from a vapor in the fact that the latter will condense to a liquid when the temperature is lowered and the pressure increased, while the permanent gas remains a gas under all ordinary circumstances. This is true with coal gas, water gas, etc. As the pressure on the gas is increased within a closed space, the volume of the same decreases and as the temperature rises, the volume increases. Thus when we say that a particular coal gas has a heat value of 600 B.T.U. per cubic foot, it is essential to know under what conditions the gas is measured, for the heat value of one cubic foot at one temperature and pressure is entirely different from that at another. It is also evident that there can be no equitable comparison between the heating values of gases unless they are all measured at the same temperature and pressure.

Measurement of Pressure

Pressure may be measured in inches of water, inches of mercury, pounds per square inch, etc. The pressure of the atmosphere at sea level is taken as standard, at 14.7 pounds per square inch, which is equivalent to 760 millimeters or 30 inches of mercury and approximately 34 feet of water. The relation between the various pressure units are shown in the following tabulation:

How a Pressure Correction Is Made

Suppose an ordinary mercury gage, connected on to a gas main, showed a pressure of 2 inches of mercury and a volume of 1,000 cubic feet is metered through the line. It is desired to find the volume under standard conditions, which means a pressure of 30 inches of mercury or one atmosphere. The pressure of two inches on mercury gage means that the pressure of the gas is two inches above that of the barometer. Thus if the barometric reading is 30 inches, then the total pressure in the gas is 32 inches of mercury (30+2). If the volume is 1,000 cubic feet at 32 inches of mercury, it will naturally be more at the lesser pressure of 30 inches mercury, the standard pressure. Then the volume must be multiplied by a fraction in which the numerator is greater than the denominator. Thus

$$\frac{1000 \times 32}{30}$$ or 1066.7 cubic feet will be the volume at the lower pressure of 30 inches mercury.

Correction for Temperature

In making the correction for temperature a law is applied, which states that the volumes of all permanent, true gases increase uniformly with increase in temperature. Thus if we start with a volume of one at 0 degrees F., when the temperature reaches 460 degrees F., the volume will be doubled or 2. On the other hand, the theory states that if the temperature of any gas is reduced to minus 460 F., that is 460 degrees below zero on the Fahrenheit scale, the volume of the gas becomes zero. Hence in making the correction for temperature, it is always necessary to add 460 to the observed and standard temperatures, obtaining in this way the absolute temperatures, and then to multiply the original volume of the gas by the temperature fraction.

Thus, if we have 1,000 cubic feet of gas, metered at 40 degrees F., and require the volume at 60 degrees F., then the following calculation must be made. As the temperature is to increase from 40 to 60 degrees F., the volume of the gas must increase likewise. Hence, the fraction must have a larger numerator than denominator, thus $\frac{1000 \times (460+60)}{(460+40)}$ or 1,040 cubic feet, which will be the volume of the gas at the higher temperature.

Simultaneous Pressure and Temperature Correction

In making simultaneous pressure and temperature correction, the observed volume of gas is simply multiplied by two fractions, which are formed in the same manner as above. A mental picture must be made of what change is expected to happen by the variation in pressure and in temperature. The volume will get smaller if the new pressure is more than the original and vice versa; similarly it will get smaller, if the new temperature is less than the original and vice versa.

Thus if 2,000 cubic feet of gas is measured (metered) at 2 inches mercury pressure and at 40 degrees F., it is possible to find the volume at standard conditions, 30 inches mercury and 60 degrees F., by making the following calculation:

$$\frac{2000\times(460+60)\times 32}{(460+40)\ 30}$$

which gives a volume of 2,218.8 cubic feet.

Correction for Water Vapor in Gas

It is common knowledge that there is always a little moisture present in gas, especially when the gas is metered in wet meters. The amount of water vapor, that is found in the gas, will depend on the temperature of the latter and for any given temperature, this proportion will be constant. This aqueous vapor in the gas exerts a certain pressure, which is read off on the mercury gage or on a pressure gage together with the pressure that is due to the gas itself. In other words, the mercury gage gives us the combined pressure, and as this is not due solely to the gas itself, it is necessary to make a correction to compensate for the aqueous vapor pressure. Hence after adding the reading of the mercury gage to the barometric pressure, it is essential to subtract the aqueous vapor pressure before the calculation. The following tabulation gives the water vapor tension at various temperatures. This table is used in making calculations to determine the volume of gas at various temperatures and pressures. Examples of these calculations are given below.

Using the Table

For example, let us consider that 3,000 cubic feet of gas were metered at a temperature of 90 degrees F. and under a pressure of two inches of mercury, as shown by the mercury gage on the gas line. The barometric reading at that time is assumed to be 29 inches. It is desired to find what this volume would be under standard conditions, 60 degrees F. and 30 inches of mercury pressure, the calculations being reduced to a dry gas.

The first step is correct for the temperature drop from 90 to 60 degrees F. This is accomplished by making the calculation indicated below, thus,

$$\frac{3000\times(460+60)}{(460+90)}$$

or 2834.5 cubic feet of gas.

The absolute pressure to which the gas is subjected in the original condition is 29 plus 2 or 31 inches of mercury. By referring to the table, opposite the temperature 90 degrees F., there is found the figure 1.373 inches of mercury, representing the vapor pressure of water at that temperature. In other words, that much of the total pressure, read off on the mercury gage, was due to the moisture present in the gas. Hence, it is necessary to deduct this amount from the absolute pressure, 31 inches of mercury, leaving a net pressure of 29.627 inches of mercury.

It is now possible to proceed with the pressure correction. This may be accomplished by carrying out the calculation, indicated below, thus,

$$\frac{3000\times(460+60)\times(31-1.373 \text{ or } 29.627)}{(460+90)\qquad 30}$$

which gives a volume of 2,800 cubic feet, approximately, of dry gas under standard conditions. However, gas is always metered and burnt in the wet condition and therefore it is better to have the volume of gas in the wet condition. It is necessary to carry out the calculation, that is indicated in the formula which is developed below, in order to obtain a correct value for the volume of the gas at standard conditions and with proper consideration of the partial pressure induced by the water vapor present in the gas.

Renault's Table of Aqueous Vapor Tension

°F.	Vapor Tension of Mercury	°F.	Vapor Tension of Mercury	°F.	Vapor Tension of Mercury	°F	Vapor Tension of Mercury
32	.181	54	.418	76	.895	106	2.282
33	.188	55	.429	77	.925	108	2.438
34	.197	56	.449	78	.962	110	2.571
35	.204	57	.465	79	.998		
36	.213	58	.480	80	1.022		
37	.220	59	.504	81	1.061		
38	.228	60	.518	82	1.098		
39	.240	61	.535	83	1.122		
40	.248	62	.555	84	1.162		
41	.256	63	.575	85	1.210		
42	.268	64	.595	86	1.242		
43	.275	65	.623	87	1.275		
44	.287	66	.638	88	1.308		
45	.299	67	.662	89	1.342		
46	.311	68	.685	90	1.373		
47	.323	69	.709	94	1.591		
48	.334	70	.732	96	1.691		
49	.346	71	.755	98	1.797		
50	.362	72	.784	100	1.908		
51	.374	73	.806	102	2.025		
52	.389	74	.838	104	2.160		
53	.402	75	.870				

Correcting Volume of Gas on Wet Basis

The volume of the gas at standard conditions is equal to the volume of gas under the observed conditions, multiplied by a correction factor. This correction factor is made up of three parts, correction for temperature, correction for pressure and correction for aqueous vapor tension. The correction for temperature takes the form of a ratio, $\frac{460+60}{460+T}$, which has already been discussed above. T in the ratio is the temperature at which the gaseous volume is observed. The pressure correction, including the water vapor correction, also takes the form of a ratio, thus, $\frac{P-A}{30} \times \frac{30}{30-a}$. In this ratio, P is the absolute pressure, that is, the observed pressure plus the pressure read off the mercury gage. A is the tension of water vapor at the temperature T, and is read off the aforementioned table. The figure 30 is the standard pressure in inches of mercury and in order for the gas to be reduced to the wet condition at standard pressure, it is necessary to subtract the pressure of aqueous vapor at the standard temperature 60 degrees F. from 30. The amount to be deducted is represented by a in the above ratio.

Connecting all the above quantities in one formula, we have as follows:

Volume at standard conditions = Volume at temperature $T \times \frac{(460+60)}{(460+90)} \times \frac{P-A}{30} \times \frac{30}{30-a}$

Simplifying the expression, we obtain the following: $V = V_T \times 17.33 \times \frac{(P-A)}{460+T} \times \frac{30}{30-a}$. It is possible to simplify the formula still further by substituting the numerical value for a, obtained from the vapor pressure tabulation opposite 60 degrees F. This value is 0.518 inches of mercury. The final form of the equation is then as follows:

$$V = V_T \times 17.64 \times \frac{(P-A)}{(460+T)}$$

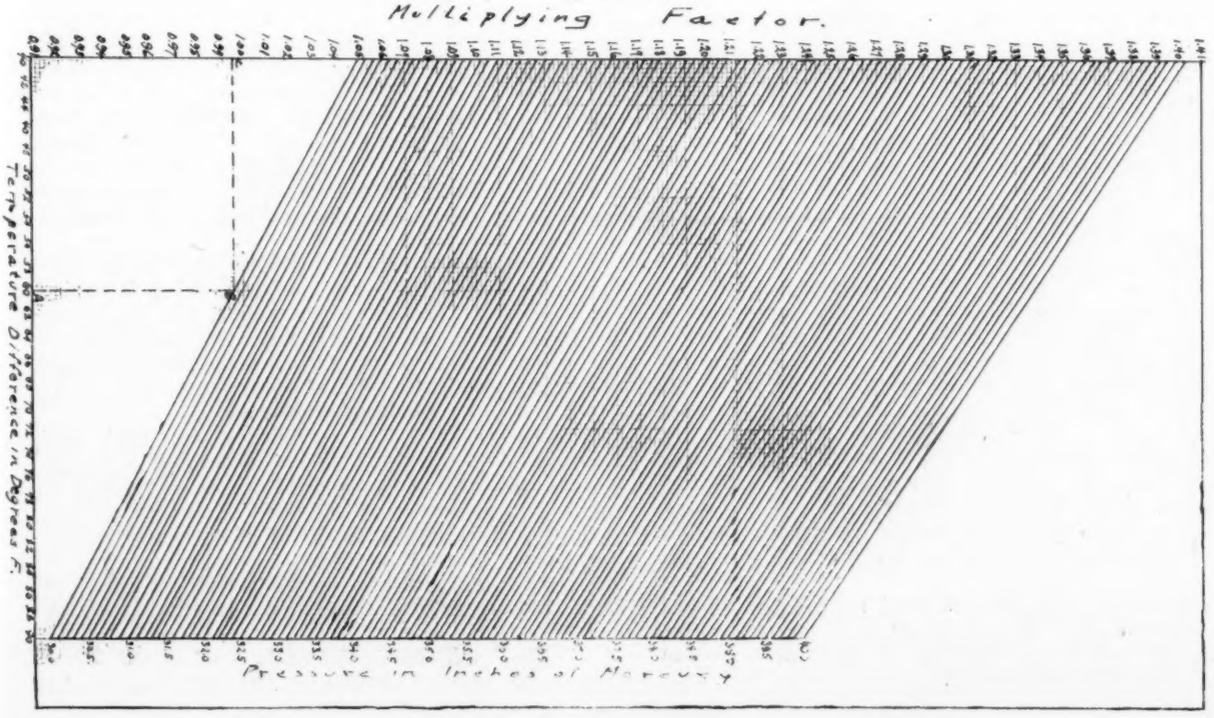
Example of Use of Formula

We may consider the same example, as given above, in which the temperature of the gas is 90 degrees F., the pressure two inches of mercury, the volume 3,000 cubic meters. In this case P is again 31 inches. The aqueous vapor pressure at 90 degrees F., that is, A is again 1,373 inches. The temperature T is 90. These values are then substituted in the formula as follows:

$V = 3000 \times 17.64 \times \frac{(31-1.375)}{460+90}$. This gives a volume of 2,839 cubic feet of wet gas at a temperature of 60 degrees F. and a pressure of 30 inches of mercury.

The curve sheet, which accompanies this article, is for the purpose of simplifying the calculations. The curves are plotted so that the correction factors must be multiplied into the volume of gas at the observed conditions of temperature and pressure can be read off directly from the vertical axis. The horizontal axis contains the temperature variations. A separate curve is drawn for each half-inch difference in pressure, starting from 30 inches and ending at 40 inches pressure.

(Continued on Page 264.)



Methods of Handling Meter Applications and Meter Records

Description of system employed by Elmira Water, Light and Railroad Company

O. C. Vieweg

Statistician, Elmira Water, Light and Railroad Company

The Elmira Water, Light and Railroad Company is a combination property having gas, electric and street railway departments (the City of Elmira purchased the Water Department in 1915). In so far as meters and consumers' accounts are concerned, the gas and electric departments are operated together.

We realize that it is highly important to get and maintain the friendship of our customers. To this end we make it as simple as possible for our customers to apply for, and get, service. And service is rendered as promptly as possible after application is made.

On a very simple meter application card, a customer can by one signature apply for all the meters (both gas and electric) he wishes in any one building.

We require meter deposits of all our customers, whether property owners or not. Our position is that to require deposits of some and not of others would be discrimination.

Making Meter Application

As a rule, written meter applications are required. But where a customer is merely moving from one house to another, and already has the required meter deposits, we accept a telephone order to install meters in the new residence.

Meter applications are taken from the application clerk on the first floor of our office building, to the meter record office on the second floor by the office boy.

In the meter record office there is a street address file containing a card for each customer; it also contains cards on dead services showing whether meter is locked or was removed, and meter size.

The address given in each application is looked up in this file to see whether it is necessary to unlock a meter, or merely read a meter charged to a previous customer who has moved without ordering a final reading.

A meter set order is then typewritten in duplicate on forms (B) and (C), containing the meter number if there is a meter on the premises in use or locked. Where a meter was removed the size of the previous meter is noted on the set order. In this way the meter setters know just what to do on each order.

Meter Setting

Form (B) goes to the meter setters for execution while form (C) is held in the office in a work in progress file. Orders go from the office to the meter shop by messenger, who makes frequent trips. The application form is sent to the accounting department.

Forms (B) and (C) are used for electric as well as gas meters. Where a customer has both, one side of form (C) is used for the gas meter record, the other side for electric.

When installing or unlocking the meter the setter makes the necessary notations on the order, such as meter number, size, location, etc. Completed orders on forms (B) are returned to the office.

They are then "matched up" with the corresponding "C" cards and meter information copied from (B) to (C).

For each meter, kept in a file by company numbers, there is a meter record card, form (D). This card shows where the meter is, the information being copied from the original set order form (B).

Form (B) then goes to the consumers' accounting department, where an account is opened up in the ledger, a stencil made for the addressograph, and a meter slip for the meter reading route book. Both the set order and the application are then filed.

Form (C) is retained in the meter record office in a permanent street address file, where it remains until the service is discontinued for that customer.

Removal of Meters

Orders to remove meters (final readings) are taken over the telephone or at the office. The necessary information is written on a regular form which is sent to the meter record office (known as the despatcher's office).

Upon receiving a removal request on this form the street address card, form (C) is taken from the files and removal orders typewritten in duplication on forms (F) and (G).

Form (F) is sent to the meter shop for execution. Form (G) is clipped to form (C), the street address card, and held in the work in progress file.

The meter setter fills out form (F) when he removes or locks the meter. If the meter is removed it is brought to the shop where a test order form (H) is made out. The reading of the meter is checked against the reading shown on the remove meter order. Complete removal orders are returned to the meter record office.

Here the Forms (F) are matched up with the corresponding forms (G) and the removal data copied on form (G). The necessary data is also copied on the meter record card, form (D). The street address card is then destroyed, and replaced in the permanent file by the duplicate removal order, form (G).

Locking of Meters

It is the practice of the Elmira Water, Light and Railroad Company on removal orders to lock gas meters unless there is a special reason or request to actually remove the meter. This is simpler both in executing removal orders and in subsequently restoring service at that location.

Where a gas meter is locked a form is filled out from the removal order and filed. Meters remaining locked over three months are removed and brought to the shop, the form card being sent to the meter shop as an order to remove. The meter man who

Form 231
E. W. L. & R. R. CO. **SET METER ORDER** 17964 S

FOR | SERVICE | DATE 192

ADDRESS | SALESMAN

NAME | ORDER ISSUED BY

MEMORANDUM | RATE

(B)

MAKER'S No. | Where is Meter Located?

COMPANY'S No. | What Floor or Apartment Served?

SIZE | Size of Service?

MAKER | What Appliances are Used?

TYPE PHASE

Constant | Connected Load is Watts | H. P. | Wired Rooms

INDEX | TRANSFORMER | Entered: Meter Records; Index Book; Ledger Page

Set 192

By

Form 230
E. W., L. & R. R. CO. **REMOVE METER ORDER** R

FOR | SERVICE | DATE 192

ADDRESS | ORDERED OUT BY

NAME | ORDER ISSUED BY

SEND FINAL BILL TO | KEY AT

MEMORANDUM | DATE TO BE DONE

(G)

MAKER'S No. | What Floor or Apartment Served?

COMPANY'S No. | Can Service be Cut? Meter LOCKED?

SIZE | Left in for New Party?

MAKER | Turned off at Street?

TYPE PHASE | Connected Load is Watts | H. P. | Wired Rooms

Constant | Transformer | Rate

INDEX | Removed 192 | Entered Meter Records; Index Book; Ledger Page

By

Form 473 GAS Order No.

For | Service | Date 192

Address | Salesman

Name | Order Issued by

Memorandum | Rate

(C)

MAKER'S No. | Locked off at Curb

COMPANY'S No. | What Floor or Apartment Served?

SIZE

	SET		REMOVED	
MAKER	Date		Date	
Set 192	Co. No.		Co. No.	
By	Size		Size	
INDEX	Date		Date	
Ranges Rm. Heat	Co. No.		Co. No.	
Wat. Heat Misc.	Size		Size	

Form 373

GAS METER TEST DATA

COMPLAINT
REGULAR

(H)

Name *Address*

Maker's No. *Co. No.*

Maker *Size* *Type* *Reads*

Date Removed *Date Tested*

Per Cent Fast | FEET PASSED: METERS | PROVER

Per Cent Slow *Tested by*

REPAIR DATA

Date Repaired *Cause* *Time*

Rate *Material*

Repaired by *Proved* *Remarks*

Form 390
Mfg. No. Co. No.

Date Purchased Make Size

(D)

Name and Address	Floor	Set	Rem.	Locked	Index

Form No. 225-C
E W L & R R CO. **CHANGE METER ORDER** 2001 C

FOR | SERVICE | Date 19

ADDRESS | Flr. Div.

NAME | Order Issued by

(L)

Meters Changed on 19 By

Reason for Change

Laboratory Data	Company No.	Maker's No.	Amps.	Volts	Maker	Type	Phase	K	Shop Index
Remove									
Set									

Did New Meter Set Register Forward? Date

Entered on Meter Record By

" in Index Book By

" on Comm. Ledger Page By

Form 230
E. W. L. & R. R. CO. **REMOVE METER ORDER** 16602 R

FOR | SERVICE | DATE 192

ADDRESS | ORDERED OUT BY

NAME | ORDER ISSUED BY

SEND FINAL BILL TO | KEY AT

MEMORANDUM | DATE TO BE DONE

(F)

MAKER'S No. | What Floor or Apartment Served?

COMPANY'S No. | Can Service be Cut? Meter LOCKED?

SIZE | Left in for New Party?

MAKER | Turned off at Street?

TYPE PHASE | Connected Load is Watts | H. P. | Wired Rooms

Constant | Transformer | Rate

INDEX | Removed 192 | Entered Meter Records; Index Book; Ledger Page

By

Form No. 441-SM 10-32 ORIGINAL

ELMIRA WATER, LIGHT & RAILROAD COMPANY No. 1244

TEST METER ORDER

(N)

Name Date

Address Account No.

Remarks

Kind of Meter Size Company's No.

Maker's No. Constant Type

Volts

Position of Hands Before Test

READING

Meter found to be Registering Per Cent.

Meter Adjusted to Register Per Cent.

REPORT

Date Tested 192 By Entered

removes the meter fills out the bottom part of the card, which is then returned to the meter record office.

The original removal orders, form (F), are sent from the meter record office to the consumers' accounting department, where the account is closed. In case the meter is removed, addressograph stencil is destroyed and the meter slip taken from the route book.

In case the meter is locked, the meter slip is left in the route book and the meter reader calls monthly and checks the reading to detect breaking of locks, until the meter is removed or unlocked. In the later case of course there will be a new slip for the new customer.

Removing Locked Meter

When a locked meter is removed the date is noted on the meter record card, form (D) and the locked meter cards are sent to the consumers' accounting department, so that the meter slip may be removed from the route book.

When a locked meter is unlocked for a new customer the locked meter card is destroyed upon receiving the completed set order (B).

In the Elmira Company gas and electric meters are in the same department. Electric meters are now installed with protective switch boxes, making it possible to lock electric meters as well as gas. In many cases the same meter man can lock or unlock both gas and electric meters. This simplifies the meter work and makes possible better service to the customer.

When a meter man calls at a house with a removal order and finds a new occupant in the house, the meter is merely read and left in if the new party signs a temporary contract form. If the party does not make written application at the office on form (A) within three days, the meter is then removed or locked.

Whenever a meter set or remove order cannot be promptly executed, the meter setter notes the cause of the delay on a slip, which is sent to the meter record office.

Testing Meters

On meter charges for test or other reasons, change order form (L) is used. When completed, the necessary changes are made on the street address card, form (C) and the meter record cards form (D).

Each test card, form (H), is returned to the meter record office after the meter has been tested, and repaired if necessary. These cards are filed by manufacturer's number, so that there is available a cross index for each meter, both the company and manufacturer's number.

On routine tests the customer is notified of the result of the test by post card.

Complaint tests are ordered by the Accounting Department on form (N), which is returned to the Accounting Department after the test is made.

Meter work has been speeded up so that (where no main extensions or service lines are involved) meters are generally set within 24 hours from the time application is made. Where application is made in the morning, it is usually possible to set the meter in the afternoon.

Oxygen In Gas Manufacture

GREAT possibilities in the application of oxygen to the manufacture of artificial gas are outlined in a report recently made to the Department of the Interior by a committee appointed by the Bureau of Mines to consider the feasibility of the use of oxygen or oxygenated air in metallurgical and allied processes.

Water-gas made with atmospheric air is largely used for city purposes, but in order to meet the accepted standards of heating value and illumination, which vary in different cities, it is necessary to "doctor" the gas by the addition of hydrocarbon oils.

Water-gas made with atmospheric air has a heating value less than 300 B. T. U. per cu. ft., but gas made in the same manner, substituting oxygen for air, would have a heating value of about 400 B. T. U. per cu. ft. Such gas would require less additions of oil to bring it up to heating value standards of 500 to 600 B. T. U. now required, and this smaller quantity of added oil would probably be sufficient to meet the illumination standards.

With a 400 B. T. U. gas available it would be much easier to induce municipalities to eliminate the obsolete illumination standards than has been found possible heretofore with straight water gas, particularly as this moderate heating value gas could be produced at a very attractive figure.

From a straight city gas standpoint, the gas with oxygen will not only be of greater calorific value than water-gas, thus requiring less enrichment, but will cost less. It is the opinion of the Bureau of Mines Committee that a gas of 400 B. T. U. could be used for this purpose without any further enrichment and the saving in this case would be much greater.

On comparing with the producer gas it is found that the cost per cubic foot of "oxygen made" gas is greater; but inasmuch as the heating value of the new gas per cubic foot is nearly doubled, the value as a fuel will be even greater than twice that of producer gas. It is the feeling of the committee that experimental work should be started along this line as soon as possible.

Detailed information relating to this matter is contained in Serial 2502, by F. W. Davis, metallurgist, which may be obtained from the Department of the Interior, Bureau of Mines, Washington, D. C.

Permanent Exhibits—A New Mode of Advertising

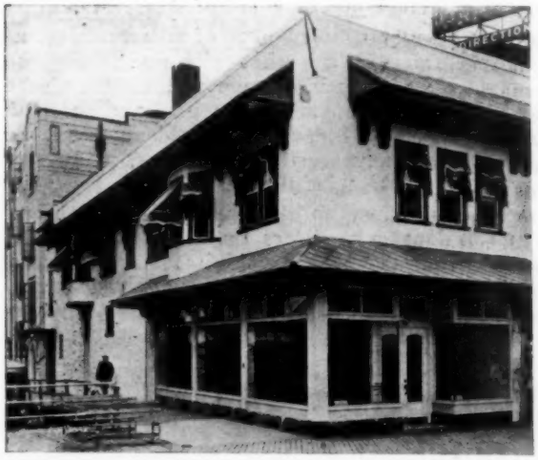
The advantages of such advertising

M. M. Scott

"To sell more gas, sell more appliances."

"To sell more appliances, put them where people will see them,—advertise them—tell the story."

This is today's prescription for success in the gas industry. How well the manufacturers have re-



sponded to the need of nation-wide advertising is recognized?

The great progress made in gas company merchandising and advertising is a matter of record. There is now, however, a new type of advertising in the gas industry, started several years ago by the Humphrey Company, manufacturers of Humphrey Radiantfires, and now ably seconded by the Ruud Manufacturing Company, makers of Ruud Automatic Water Heaters. It is "Permanent Exhibit" advertising on the Atlantic City Broadwalk, the Main Street of Vacation Land, the all-season Mecca of from fifteen to twenty million gas users or potential gas users, yearly.

Boardwalk Exhibits are more than an analogy to advertising; they are advertising in its strongest sense, national advertising with a circulation nine or ten times stronger than the largest magazine.

The Advertisement

Attention, then, while the advertisement unfolds before you:

The signs above and in front of Boardwalk Exhibits are the headlines that attract attention; the show windows are the illustrations, the floor display is the text and it can be arranged as strikingly as the most effective talking type; the floor demonstrator represents the answer to the inquiry for further information, with the advantage that he can tell and illustrate the desired points of information.

The Ruud Manufacturing Company, extending its plan of national advertising and dealer assistance on an even greater scale, has established a Permanent Exhibit at 739 Boardwalk, at the corner of Delaware Avenue. Located a few steps away from the Garden and Steel Piers, it is in line with the heaviest traffic, promenaders, bathers, wheel-chair riders,—in fact, nearly every visitor to Atlantic City at some time or other passes by this central point.

The Ruud Exhibit presents a two-way expanse of show windows to the Boardwalk. The effect is that of a show case. Upon entering the visitor is impressed with the size of spacious rooms and the artistic arrangement that permits every courtesy to guests.

Display Room

The Display Room fronting on the Boardwalk is nineteen by fifty-seven feet. Exquisitely colored

rugs covering the tile floor provide true home atmosphere. The wall decorations in two-tone ivory combine with the clear white lavatories and the black enamel and dark grey display of heaters to furnish a harmonious and effective picture.

On a raised platform on one side of the room, each size of the instantaneous, storage and small house instantaneous types is shown. Two lavatories are connected for demonstration. On the other side of the room is shown the complete line of Ruud Multi-Coil Storage Heaters, together with an entire system with a copper tank. At the rear is a completely appointed lounge room, twelve by seventeen feet, equipped with easy chairs, writing desk and materials for the convenience of visitors.

The office is at the right rear, giving no hint as to any possible interference of business upon minds on pleasure bent. The display is the important thing and the indelible impression that Ruud makes is that leisure hours need not be confined to the sea-shore but can be extended to the home.

Many prospects who have not been approached by dealers and consequently have not availed themselves of modern convenience like Ruud Automatic Gas Water Heaters, become bright prospects when they return home from a vacation spent at the sea-shore. All the preliminary work has been accomplished by a demonstration at the Boardwalk Exhibit and if the dealer is alive to the possibilities in his town, bigger, better sales come to him with less effort and least expense.

Advantages of New Form of Advertising

Another point in favor of this new form of advertising is that only flawless products that are licensed to bid for national patronage and which can withstand the closest scrutiny without a reflection of doubt upon their merits, find it possible to display profitably.

Some idea of the circulation value of this new form of permanent contact sustained by a permanent exhibit at the Playground of the World, may be gained from the information that approximately two hundred conventions are held here annually. The Master Plumbers' Convention was held in June and the American Gas Association will convene in October.

Every advertiser who occupies space in the columns of gas magazines would find it advantageous to reach the men who must approve and in most cases give their co-operation if a product is to be marketed successfully and extensively.

Some of the most important conventions that have been held in Atlantic City are listed here to afford an idea of the representative class of consumers with whom a Ruud Exhibit establishes a better understanding of the gas industry; The Associated Advertising Clubs of the World, International Lions Club, American Canners' Association, American Bankers' Association, Telephone Pioneers of America.

A noteworthy accomplishment of a permanent exhibit on the Boardwalk is that with one stroke the three main classes—men, women and children—are reached. Appearance and action go hand in hand and when the entire household is sold on the value of gas and its many worthy appliances, prosperity beckons to the entire industry.

As to cost, if concerns like Humphrey, Crane and Ruud, all national advertisers, on an extensive scale, have established permanent exhibits, it is hardly an experiment but rather is a step forward that especially to the gas industry means a broader field of service.

*Back Run Gas

What it is and why?

By W. W. Klyce
Pontiac, Michigan.

BACK RUN GAS, so called, is made on an ordinary water gas set so modified that steam is introduced into the gas off-take at the superheater, passing back through the superheater and carbureter in a superheated condition to the generator, where combining with carbon, it forms blue gas, the blue gas being then conducted to the wash box and thence to the relief holder.

The method employed to obtain this condition is very simple. A back run pipe line of ample size, being approximately the same size as the connections between the superheater and wash box, is run from the generator ash pit to the inlet of the wash box. A valve is placed in the back run pipe line. A butterfly valve is also placed in the gas off-take from the superheater between the superheater and the back run connection at the wash box inlet.

Operation of Set

The operation of the set, equipped with the back run process, consists of three cycles, viz: blow, up-run and back-run. All oil is introduced on the up-run in the usual manner. The back run cycle is started as soon as oil is cut off and the machine clear of oil gas. The back run time is approximately 50% of the total run period.

The original idea of passing steam back through the superheater and carbureter was to keep the checker brick free from carbon, thus enabling the gas industry to use heavier gas oils and also oils with a higher sulphur content. It is a well known fact that carbon disulphide (CS^2), is not formed in water gas set with clean checker brick.

It was also the desire of the designer to use soft coal as a water gas fuel. The coal in this back run process being introduced continuously into the generator during the back run. The coal is prepared and crushed to about buckwheat size. The coal being introduced into the generator in the presence of superheated steam, etc., would be partially carbonized before coming to rest on the fuel bed.

Use of Soft Coal

Several sets on the West Coast using soft coal with this process have reported excellent results. The first back run installation East of the Rockies was made at the Gas Plant of the Consumers Power Company, Pontiac, Michigan, purely as a manufacturing experiment. During the testing of this back run, it developed while using coke, that there was a decided saving of generating fuel per thousand cubic feet at a decreased amount of oil per thousand cubic feet and an increased capacity per run. These results being

(Continued on Page 264.)

*Paper prepared for thirty-first annual meeting Michigan Gas Association September 19 and 20, 1923, Grand Rapids.

As The Journal Views It

A PHASE OF INDUSTRIAL GAS

As the business of a gas industry changes, acquiring more and more of an industrial aspect, it is only natural that there should occur a gradual change in the general operation of the gas company and in the economic phase of the gas enterprise. The income of gas companies as well as of other public utility companies, has been established by law and has been upheld by courts at figures which have been thought to be commensurate with the capital invested and the service performed. That this income is not large, certainly not as large as what is derived from industrial enterprises, is perhaps due to the fact that the gas industry is considered a public service—something that the public cannot do without, no matter whether business is bad or good,—hence a service which, because of the surety of the return, should not command the high rate of income that is gained in industrial enterprises where there is a chance not only of making no profit at all, but of losing part of the invested capital as well.

It is true that the business of the gas utility has been such that the housewife was compelled to use gas whether business conditions were good or not. Food had to be eaten and it had to be cooked before it was digestible. In cold weather the house had to be heated. But today the character of the gas company's business in many cities and towns is much different than what it was a decade ago. A good part of the business is industrial. The gas company supplies gas which is used as a fuel in various manufacturing processes that are carried in plants located within the city or town.

When business is good, when these manufacturing plants have a good market for their products, when the mills hum with activity, then gas is consumed and the gas company must be prepared to supply this gas when it is wanted. It must have the equipment and the organization to meet the maximum demand at the time when it occurs. And on this business it is still expected to earn the moderate return that it did when it supplied gas just for domestic uses.

A profit will be made by the gas companies under these conditions in good times, but what about the periods of depression when business men lose confidence, markets are dull, people refuse to buy and when plants have to shut down. The manufacturing plants that cry for gas in times of plenty will refuse to use a cubic foot of it when they have no use for it. When the plant shuts down the use of gas ceases and still the gas plant, that is supplying this gas, must have available, ready to be put into operation the moment it is called upon, extensive equipment, adequate to fill the maximum requirements of its industrial business. The gas company under such conditions must, like every other industrial enterprise, be permitted to make more than a moderate return on its business, so that it may have a surplus with which to cover the losses that are incurred during times of depression.

There are several ways in which a gas company can arrange its business, so that it incurs no loss due to such conditions and probably one, which would be welcomed best by the consuming manufacturers, would be to have these industrial users actually pay for the interest on the investment and the upkeep of that part of the gas plant which is set aside, especially for their particular use. At any rate whatever plan is used, it is necessary that a more adequate return be allowed the gas companies whose business is gradually, year by year, assuming more and more of an industrial aspect and acquiring the consequent risk that is associated with general industrial enterprise.

While we, as gas men, may be greatly concerned with this situation, and while there are many economists and industrial experts who also realize the peculiar position into which the gas companies are gradually but surely being pushed by factors only partly under their own control, the public as a whole

does not appreciate these circumstances. It does not know and does not understand the significance of the new conditions in the gas business, what changes are being brought about by the increase in the gas company's industrial load.

It is up to the gas industry to educate the public to the truth, so that when representations are made for relief, there is no opposition to them from the public. Then if political opposition does arise, its effect will be nullified.

As one well informed writer recently stated, "It is scarcely understandable by the average business man, who is informed of the actual facts of the situation, how the gas company can exist with such a low fixed annual income." What is necessary is some plan that will allow the gas industry the same opportunities as other industrial enterprises.

Back Run Gas

(Continued from Page 262)

obtained day after day and month after month. Tests of this set with 22½ square feet of grate area show that seventy-five to eighty cubic feet of gas per square foot of grate area per run of gas making time were obtained. Coke containing approximately 9% ash was used as fuel. To make a water gas of 540 B. T. U. calorific value required 28.0 pounds coke and 2.43 gallons of gas oil per 1000 cubic feet water gas made.

No apparent change in clinker conditions were noted while a decided change in checker brick conditions were found. At the present time the checker brick are entirely free from carbon and have been in use over 2400 hours, 900 hours of which was before the back run was installed. As to how long these bricks will last, no one can say, but apparently they are in as good condition as when first installed.

In this process hat valves are dispensed with which results in quite a decrease in maintenance. While this process has only been in use at Pontiac about eight months, it apparently has been doing more than was originally expected of it.

Comparison of Results

	Before Using Back Run	With Back Run
Oil per M	2.93 gallons	2.42 gallons
Coke per M	33 pounds	28 pounds
Steam per M	32 pounds	30 pounds
Temperature at bottom of superheater	1350	1350
Temperature at top of superheater	1325	800-890
B. T. U. enrichment per gallon of oil	101-104	121-128
Temperature of Back Run Gas at Generator Ash Pit Outlet		450°F.

From the above comparison one can readily see that the back run gas leaving at a temperature of 450°F, the carbureter gas and blast products leaving at approximately 850°F, that there is a considerable saving in Generator fuel when one realizes that all the finished gas and blast products leave the machine at 1350°F before the back run installation was made.

The Fuel of the Future

(Continued from Page 257)

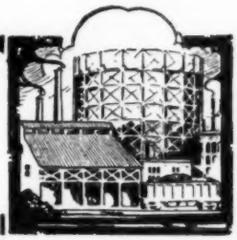
Method of Using Curve Sheets

For example, 1,000 cubic feet of gas are metered at a temperature of 60 degrees F. and at a pressure of one inch of mercury, and it is desired to find the volume of wet gas under standard conditions of temperature pressure. The atmospheric pressure is found to be 29 inches of mercury. The first thing to do is to find the absolute pressure, which is 29 plus 1, or 30 inches of mercury. On the curve sheet the 30 inch pressure curve is first located. A rule is placed on the horizontal axis at the point corresponding to the observed temperature of 60 degrees F., and the ordinate is projected vertically until it hits the 30 inch curve. When the proper point of intersection of the line AB (see curve) and the curve is found, then by running a horizontal line BC across from that point to the vertical axis, the factor 0.996 is read off the scale. This factor must be multiplied into 1,000 cubic feet and gives 996 cubic feet as the volume of wet gas at standard conditions.

EFFECT OF CARBONATES ON AMMONIA PRODUCTION

In the gasification of coke at 900°C. with steam in the absence of air, 92% of the nitrogen in the coke may be recovered as ammonia, whilst the addition of increasing quantities of air progressivly lowers this yield. The addition to the coke of calcium, strontium, or magnesium carbonate has but little influence on the yield of ammonia, a maximum yield of 95.5% being obtained by using steam together with calcium carbonate. If air is also present the yield of ammonia is practically unaffected by the addition of carbonates. The addition of barium carbonate depresses the yield of ammonia, whilst increasing the velocity of gasification in the presence of air. The barium oxide produced probably acts catalytically as oxygen-carrier and increases the rate of oxidation, both of the carbon and of the ammonia. The almost quantitative conversion of the nitrogen of the coke into ammonia in the previous cases agrees with the hypothesis that the nitrogen is present in the coke in the form of nitrides. For further details see Das Gas und Wasserfach, 1923, 66, 249-252.

NEWS OF THE GAS INDUSTRY



Michigan Cas Association Meets

Grand Rapids, Mich.—With almost 200 gas men and their ladies in attendance, the Michigan Gas Association met in annual convention at the Pantlind Hotel, here September 18 for a three-day meeting. The meeting was held in conjunction with the State Electric Light Association and problems common to both were discussed jointly.

Power plant design, house heating with gas, coke sales, back run process of water gas manufacture, insurance, merchandising and public relations were the chief topics discussed. All the papers presented were featured by considerable discussion from the floor by delegates.

In his address, President Fred W. Seymour, of Battle Creek, pointed out that the future of the industry was what the men in the industry themselves made it. He spoke of the zeal with which newly arising problems were attacked. He referred to the manner in which recent fuel shortages were handled without interruption in service and summarized the important committee work accomplished in various fields during the year. Touching on public relations work, he said:

Address of President

"You have already heard of the work the Committee on Public Utility Information has done and we all appreciate the increased breadth, scope and importance this work is assuming. Also, the growth of the communities we serve, has been phenomenal in some places and has called for extensions requiring enormous sums of money. The utiiities are finding customers and citizens of their communities as a great source of capital. Customer ownership campaigns are meeting with splendid success."

Mr. Brown's Remarks

R. B. Brown, of Milwaukee, president of the American Gas Association, and Oscar H. Fogg of New York, secretary of that body, were present. Mr. Brown presented the compliments of the national body and briefly discussed house heating. He said it was his opinion that this would always be a source of income from a limited few who could afford it and that it would be necessary to render the service where demanded. He spoke of the increasing attention which is being given to this class of service.

Frank A. Newton, Consumers Power Company, Jackson, spoke on the future of the industry.

"New gas customers are being taken on by the gas industry of the country at the rate of 350,000 a year," he said. "The demand was never greater than it is today. Never before has the construction program been more comprehensive. The investment is in the neighborhood of four billion dollars and hundreds of millions must be obtained annually to meet the need.

"In my opinion, the future of the situation lies in the industrial use of gas. It will be noticed that the American Gas Association is giving more and more attention to this subject. During the last ten years, while the use of gas increased 100 per cent, the increase of industrial gas increased 1,000 per cent. This phase of the situation has a direct interest to the public as well as to the utilities, because the sale of gas in large blocks means lower rates to the public as a whole."

Gas and Electricity

Mr. Newton raised the question as to whether or not the gas men were blinded by the brilliant development of electricity. While customers are being added in large numbers by electric companies, he said, yet actual gas sales keep up well in comparison with actual electric sales. People are simply making greater use of both services because they need both, he said.

The opening session of the convention was devoted to the work of the Michigan Public Utility Information Bureau. Alfred Fischer of Ann Arbor, director of the bureau, presented his annual report and reviewed the press and speakers' service rendered by the bureau. He visualized the conspicuous position which the public service industry occupies in the public mind.

"Serving the public well and never letting them forget they are being served well is a policy which business men are just beginning to appreciate at its full value," he said. Chairman W. W. Potter of the Michigan Public Utility Commission of Lansing, spoke on service. He emphasized the importance of good service and gave some suggestions on the presentation of cases before the commission.

Wednesday evening was featured by a joint banquet, at which more than 400 gas and electric men and their ladies were present. John K Swanson of Jackson, Mich., was toastmaster. The principal speaker was John A. Russell of Detroit, editor of the Michigan Manufacturer and Financial Record. His subject was public service.

Manager E. O. Wedge of Leominster Co. Resigns

E. O. Wedge who has been manager of the Leominster Gas & Electric Light & Power Companies for the past six years, severed his connections with the organization Sept. 1st, having resigned on account of the condition of his health.

During the six years he has been at Leominster, he has made a large circle of friends who will regret to see him leave the place he filled so creditably. Mr. Wedge has done much to cement the ties of good fellowship between employer and employee. He was responsible for the creation of a social club among the employees at Leominster and has been foremost in their social gatherings.

Mr. Wedge is to be succeeded by Ernest T. Craig, who has been Mr. Wedge's assistant for the past year and a half.

Northampton Gas Company Holds Outing

The Service Club of the Northampton Gas Light Co. held its annual clambake Aug. 29th at the Hampshire County Sportman's Club House which is situated in Hadley, on the banks of the Connecticut River. A most delightful and complete menu was prepared by caterer William Outmet and was enjoyed by all present—which included practically every employee of the Northampton Companies. Following the bake there was a musical program followed by dancing.

Gas Company Holds Novel Contest

An interesting feature of the work of building the new gas holder by the Leominster Gas Light Co. of Leominster Mass. is the guessing contest which the company is conducting as to the number of rivets in the new holder under the process of construction. The prize for the guess nearest to the actual number will be a gas range. All customers who make a fifty-cent purchase or over will be entitled to one guess. The contest will close when the holder is completed which will probably be about the third week in September.

High Points in Coming Empire State Meeting

The following are some of the high points of the Empire State Gas & Electric Association meeting to be held October 8 to 19 at Lake Placid, N. Y.:

At the last legislative session there were two utility measures of most vital concern to the members of this association. One proposed to substitute municipal for state regulation. The other provided for a start in a program of state development of water power.

There is no one better qualified to discuss the question of regulation than Hon. Carl D. Jackson, formerly chairman of the Wisconsin Commission, a past president of the National Association of Railway and Utility Commissioners, and at present general counsel of the American Gas Association.

O. C. Merrill, secretary, Federal Water Power Commission, is an authority on the economic aspects of water power development, and is thoroughly familiar with the New York situation.

We are particularly fortunate in having been able to arrange to have these two vital questions presented to us by such eminent authorities as Commissioner Jackson and Mr. Merrill.

For several years the association has been striving to secure the interest of the savings banks in amendments to the banking laws to permit the investment of savings bank funds in securities of gas and electric companies.

Mr. George E. Stevenson, Society of Savings, Hartford, Conn., has given much thought to this subject and in a noteworthy paper presented at the recent convention of the National Association of Mutual Savings Banks he discussed the factors which must be considered by custodians of savings bank deposits in making investments. His analysis of the situation will be of the greatest assistance in our further efforts in this important matter.

The railroads have many of the same problems as the gas and electric companies. They have adopted a definite program for meeting these problems. What they are doing and how they are doing it will be explained to us by a prominent railroad executive representing the Committee on Public Relations of the Eastern Railroad Presidents' Conference.

The successful executive of a gas or electric company, the manager or the head of a department, must be a leader. The address by Dr. Murray Bartlett, presient of Hobart College, on the Psychology of Leadership, will be an inspiration and an aid to all of us in the conduct of our particular tasks and in rendering to the public safe, adequate and efficient gas and electric service.

The enactment last winter of the so-called "service charge' bill has made the question of gas rates more acute than ever. The Advisory Rate Committee in its report will discuss the present status of this problem.

Another subject of the greatest importance is that of inter-connection. While it, of course, has its technical aspects, it is primarily a question of public policy not merely for each local company but for the industry as a whole. The report of the Transmission Lines Committee presents this phase of the problem for consideration and discussion.

Ogdensburg Gas Company Merged In New Corporation

The St. Lawrence County Utilities, Inc., of Potsdam, N. Y. filed a certificate of incorporation in the office of the Secretary of State at Albany. The new corporation which is capitalized at $725,000 is formed by the consolidation of the Massena Electric Light and Power Company, Potsdam Electric Light and Power Company, Ogdensburg Power and Light Company, and the Ogdensburg Gas Company.

Directors

F. A. Stoughton, Postdam, N. Y.

G. R. Gibbons, Oliver Building, Pittsburgh, Pa.

C. P. Scheller, Potsdam, N. Y.

Attorney

Neile F. Towner, Albany, N. Y.

Serves Dinner to City Officials

Ithaca, N. Y.—Officers of the city administration, headed by Mayor L. P. Smith, members of the Board of Public Works and other city officials, directors of the Board of Commerce and Supreme Court Justice Charles A. Hitchcock were the guests of the officers of the New York State Gas and Electric Corporation at a dinner given at the Ithaca Electric Plant, more commonly known as the Remington powerhouse. They not only enjoyed a fine dinner but were given an opportunity to learn of the great improvement made by the corporation at this plant since it was acquired from the Ithaca Traction Corporation.

President Sanford Magee, General Superintendent William E. O'Neill and others of the company's staff made the guests welcome and before dinner showed them about the plant, which since it was purchased from the Traction Corporation has been transformed into a modern power station, equipped not only to meet current needs but capable of expansion as the demand warrants.

The dinner was served inside the electric plant to the accompaniment of the roar of powerful dynamos, which it was reported not only had no effect upon appetites or enjoyment, but successfully prevented would-be orators from practicing their favorite pastime.

During the hour before dinner a number of interesting facts were brought to the attention of the guests. They learned that when the plant was acquired by the corporation in June, 1921, the equipment then consisted of one 750 kw. turbine and three 400 kw. Russell engines. Since then a 3,000 and a 1,500 kw. turbine have been installed. One of the 400 kw. Russell engines has been removed but the total equipment now aggregates approximately 6,100 kw., it was stated. In short, a modern plant in every sense of the word is now in operation. About a half million dollars has been spent on it.

Besides this equipment, the company has put into operation two 500 horsepower boilers in addition to the two 400 horsepower boilers secured with the plant. Now the plant supplies power to the city as well as the Village of Cayuga Heights, Trumansburg, Interlaken, Ovid, Dryden, Freeville and Groton.

Approximately 300 men and women of the city are now employed by the corporation and the company has over 11,000 gas and electric meters in service. The permanent staff of employees averages about 150. At the company offices are the general accounting, operating and executive staff of the Associated Gas and Electric Corporation, which is the parent company of the local concern and fourteen others operating similar plants in this State, Massachusetts, Ohio, Kentucky and Tennessee, serving a population in excess of 200,000 and giving employment to about 1,500 men and women.

Among the properties of the parent corporation are: 14 steam electric plants, seven hydraulic electric plants and 12 gas plants which sold in 1922, 22,086,000 kilowats of electricity and 318,124,000 cubic feet of gas, in the 196 communities served by them.

At the present time, about 30 people are employed here in general work incidental to the properties of the parent corporation, as executives, engineers, accountants, stenographers, etc.

The corporation is one of the oldest business concerns in the city, having been in business under various names since 1852. It is also co-operative in nature, there being considerably over 1,300 customers of the corporation who are also preferred stockholders.

Monthly Statement Issued

Atlanta, Ga.—Net earnings of the Atlanta Gas Light Co. for July, according to the monthly statement of the company last week, amounted to $36,674, which was at the average rate of slightly more than 36 cents per 1,000 cubic feet of gas. Gross earnings of the company were given at $157,398.39, which averages $1.5505 per 1,000 cubic feet, with gross expenses at $123,359.28, an average of $1.2208 per 1,000 feet. Revenue from other sources aside from the sale of gas was $3,234.89.

Contracts for New Equipment

The Syracuse (N. Y.) Lighting Company has arranged for extensions and improvements at its Fulton Street Electric Sub-station, which will include a two-story building for housing additional oil circuit breakers, regulators, new feeders, etc.

For its gas plant, the Syracuse Company has contracted for the installation of exhauster equipment having capacity of 420,000 cu. ft. of gas per hour.

All of the engineering and construction for this work is being done by The U. G. I. Contracting Company, Philadelphia, Pa.

Extensive Improvements Made to Harrisburg Plant

The U. G. I. Contracting Company, of Philadelphia, has for some time been engaged in extensive improvements at the plant of the Harrisburg Gas Company. In addition to this work the Harrisburg Company has awarded to the contracting company contract for installing complete new boiler plant containing two 200 H. P. boilers, also a water softening system. Upon the completion of these improvements the Harrisburg plant will have been modernized in every respect.

Improvements for Madison, Wisc., Plant

The Madison Gas Company of Madison, Wis., placed order with The Gas Machinery Company, Cleveland, Ohio, for automatic water gas control and auxiliary hydraulic equipment.

This will be installed on the ten foot Gas Machinery Company set in the Madison Gas Company's plant.

The installation of this automatic control and auxiliary hydraulic equipment will enable the Gas Company to operate on shorter blow and run period, thereby having all the various operations take place at the exact moment desired which is impossible with hand operation, in which an operator has to depend on a clock or other similar timing device for his operations.

Prepares New Gas Rate for Detroit

Detroit, Mich.—The franchise of the Detroit City Gas Company will expire October 31. After that time the company will do business in Detroit under a day-to-day agreement according to plans being made by city officials. To ascertain the true physical value of the company property, claims and accounts, on which to base a new gas rate, Richard I. Lawson, corporation counsel, commenced a review of a 23-page report on the company's condition, just completed by the auditing firm of Parsons, Clapp, Brinkerhoff & Douglas.

The study to be made by Lawson will determine the rate to be agreed upon under the day-to-day agreement. Lawson will co-operate with the city controller in making this study and it will be based upon a fair return upon the gas company's investment. The valuation of the holdings of the company has not yet been established.

The facilities of the Ford Motor Company for establishing a true value of the gas company's plants and equipments will in all probability be called upon by the city in its study, Lawson stated. The use of these facilities were offered the city by Henry Ford several weeks ago. The Ford company produces more gas than any other firm in this district, excepting the gas company.

The franchise which will expire within two months was for 30 years. Under it the company obtains 79 cents per 1,000 cubic feet sold to domestic consumers. The company several months ago requested a raise to more than $1 for each 1,000 cubic feet, which request the council refused.

Gas Standard Changed By State Utilities Board

Denver, Colo.—A new order to become effective Oct. 1 and changing the standard required for heating gas, has been issued by the state public utilities commission. Instead of holding the gas companies to the present 575 B. T. U. a cubic foot, the new order will permit them to maintain a lower number of B. T. U. a cubic foot, providing their equipment is such to give satisfactory results.

Franchise Demand by Carthage Gas Co.

Carthage, Mo.—Notice that a new franchise, acceptable only on condition that the rate of charges for gas be fixed and established in the form of rate commonly known as the Doherty or three part rate, was received by Mayor C. F. Drake from the Carthage Gas Company.

The twenty year franchise which was voted by the people of Carthage on March 3, 1903, and under which the gas company has been operating here, has expired and the gas company insists that a new franchise be drawn up. The tripart rate demanded by the gas company involves a service charge based on the maximum amount of gas used by the consumer and a charge for the actual amount of gas used.

Gas Co. Stands for Improving North Albany

Albany, N. Y.—Denying that it has been the wish at any time of the Municipal Gas Company to antagonize the residents of the northern section of the city, Neile F. Towner, attorney for the company, declared it was the intention of the officials to co-operate with them in every way possible for the development of the section. The gas company attorney's statement came closely after the decision of Judge Rosch granting an application for a peremptory mandamus order directed to the superintendent of buildings of Albany to receive the application for a permit for the erection of a gas holder, and if the same conforms with the building code, to issue a permit.

"No one, as far as I know, connected with the company has any elation in the matter of this decision," said Mr. Towner. "Our feeling all along has been one of grave concern. We know that for the proper industrial development of the city of Albany, additional holder capacity is absolutely essential, but we never had any wish to antagonize any of the people of the north end; on the contrary, we wanted to co-operate with them in every way possible for the development of that section, which I feel should be developed along industrial rather than residential lines.

"Personally I know many residents of that portion of the city and have a large number of good friends who reside there and I have felt that they looked at this matter at the wrong angle and was very sorry they did not see the situation as I viewed it. North Albany, with its railroad and river facilities, to my mind is the logical location of large industries, and it seems to me that any action by any one which would curtail such a development is a mistaken attitude toward the best interests of the city in which all are vitally interested."

Personal

Karl Jorgensen, Industrial Engineer and Accountant, who since 1919 has been engaged in system and organization work for the Commonwealth Edison Company, the Peoples Gas Light and Coke Company, and other Insull companies in Chicago, has severed his connection with the Bureau of Commercial Economics of Chicago. On October 1 he will open an office in the Higgins Building, Los Angeles, and practice industrial engineering and public accounting, his first engagement being a general survey of several departments of the Southern California Gas Company. Mr. Jorgensen has been active in association work of both the N. E. L. A. and the American Gas Association, particularly in connection with customers' accounting, merchandise accounting, and allied problems.

To Erect Additional Holder

Bluffton, Ind.—The Northern Indiana Gas and Electric Company announced that a second gas tank will be erected here, with a capacity of 20,000 cubic feet of gas, being of the same capacity as a tank already installed here.

The two tanks will give an eight to ten hour service supply of gas here, in the event of a break in the pipe line between Bluffton and the pumping station at Fort Wayne.

New Gas Rates Are Announced

Reno. Nev.—New gas rates for Reno and Sparks, under the terms of the stipulation signed by the Public Service Commission, City of Reno, Truckee River Power Company and Judge Farrington of the United States Court, have been compiled and were made public by the power company officials. The new rates call for a 15 per cent increase over the rates of 1919, as provided in the stipulation, the increase to be impounded for one year, when it will be determined whether the company is earning eight per cent on its investment.

The rate will be $1.15 for the first 200 cubic feet or less for a period of thirty days; $1.30 for 300 feet; $1.50 for 400 cubic feet, with a higher rate of from fifteen to twenty cents per 100 feet up to 1000 feet, for which the rate is $2.50. The next jump is for the 2000 feet after the first thousand, which will be $2.35 per 1000. The rate per 1000 feet over the first thousand decreases, so that the large consumer's rate lowers as the amount of gas used increases.

As the company does in its electric bills, a discount of twenty-five cents will be made on each bill if it is paid within ten days after being rendered.

Gas Mains Placed by P. G. & E. Co.

Novato, Cal.—The Pacific Gas and Electric Company has started work on the laying of gas mains to supply local consumers. The initial work calls for the laying of 8325 feet of 2 inch high pressure mains in the town. These new mains will serve some 41 applicants and make service available for approximately 30 others along the line.

Beaumont Gas. Co. Is Merged With Southwestern

Beaumont, Tex.—Announcement was made of the consolidation of the Beaumont Gas Light Company with the Southwestern Gas and Electric Company of Shreveport. According to M. T. Walker, manager of the local firm, no change will be made either in the ownership or the management of the Beaumont company.

Hereafter the local organization will be known as the Beaumont division of the Southwestern Gas and Electric Company, according to Mr. Walker's statement. The statement continues:

"The Southwestern Gas & Electric Company is one of the pioneers in the development of natural gas in northern Louisiana and Texas. It supplies electricity and natural gas in Shreveport; natural gas in Oil City, Vivian, Rodessa and Mooringsport, La.; Atlanta and Bloomburg, Tex.; natural gas, electricity and street railway service in Texarkana, Ark.-Texas. The Gulf Cities division supplies manufactured gas in the cities of Biloxi, Gulfport, Pass Christian, Mississippi City, Long Beach and Beauvoir, Miss., comprising the fashionable resort district of the gulf, Gulfport being an important shipping center. The company's pipe line extends along the gulf a distance of 25 miles, serving all the towns from a central generating plant located at Biloxi, Miss.

"The Beaumont division supplies manufactured gas in the city of Beaumont. The population of the cities served by the combined companies totals approximately 200,000.

"It is believed by the owners of these properties that the merger will permit a more flexible operating and financial management than has heretofore been possible; thus enabling the company to render the best possible service to the communities in which it operates.

"Mr. Walker has been elected vice-president in charge of the Beaumont division of the Southwestern Gas & Electric Company. The officers of the company are:

"President, R. C. Dawes; vice-president, Rawleigh Warner; vice-president and treasurer, L. S. Wescoat; vice-president and manager (Texarkana), W. L. Wood, Jr.; vice-president and manager (Beaumont), M. T. Walker; vice-president and manager (Biloxi), D. G. Skinner; secretary and assistant treasurer, A. T. Leonard; assistant secretary, H. B. Hurd; directors, R. C. Dawes, Jos. C. Markley, A. T. Leonard, Rawleigh Warner, H. B. Hurd.

"The resources of the combined companies will total more than $15,000,000. The authorized capital stock of the company is $5,250,000.

"The consolidated company has 40,000 gas and electric meters in use, 5500 of which are in Beaumont. In 1922 the company sold 289,200,000 cubic feet of manufactured gas and 8,379,802,000 cubic feet of natural gas. The company has 388 miles of gas main, 1450 miles of electric light poles. The local taxes paid by the company during 1922 amounted to $165,000, $25,000 of which was paid by the Beaumont Gas Light Company."

New Gas Office Ready

Van Nuys, Cal.—Now nearing completion, the attractive building being constructed by the Southern California Gas Company will soon be occupied by the local branch of the company.

Modeled on the type selected by the Southern California Gas Company for all its buildings, the new home of the Van Nuys office is another addition to the growing list of becoming structures that are being erected in the community. Its facade, made of stucco and glazed tile with a pilaster of the latter material lining each side of the entry, is perhaps the most ornamental office building front in Van Nuys.

Much of the equipment of an office, usually purchased apart from the building contract, is being made within the building. A wall safe has been placed in the rear partition and counters and other woodwork made in conformity with the general plan of the interior. The total construction is costing $15,000.

According to W. G. Russell, manager of the local office, fifteen employees are now working in and out of the Van Nuys office.

Personal

Mr. C. F. Freeman of the Surface Combustion Company has been transferred from the position of manager of the Pittsburgh District to that of Chief Engineer. His address is now 366 Gerard Avenue, New York City.

New Plant at Sheboygan

Milwaukee, Wis.—A new gas plant, to cost about $1,000,000, will be erected at Sheboygan by the Wisconsin Public Service Corporation, whose main offices are in Milwaukee. A 14-acre site west of the city has been acquired and work will be begun immediately. The new plant will replace the one now in use.

Work on a new storage tank, having a capacity of 1,300,000 cubic feet of gas, will be started immediately, and a new pumping station and boiler plant will also be erected. It is proposed to connect the new storage tank and the present plant with a high pressure main. The tank will be 138 feet high, 128 feet in diameter and will cost approximately $150,000. The boiler and pumping plants will cost $200,000. Other units are to be erected later, and when completed the plant will have a capacity of about 3,000,000 feet a day.

It is said at Sheboygan that the new plant will be one of the most modern in the country. Situated on the river, lake freighters will land coal cargoes on the dock of the plant.

The company's gas mains were extended to Sheboygan Falls and Kohler, about half way to Plymouth, several years ago, and the two former places, as well as several farms along the line, are being supplied with gas from the Sheboygan plant. Plymouth wants gas service and extension of the mains to that city is being considered.

Clement C. Smith, Milwaukee, is president of the Wisconsin Public Service Co.

New Gas Plant Ready Soon

Galesburg, Ill.—The new gas plant of the Galesburg division, Illinois Power and Light Company, will be ready for use within a month, R. F. Carley, superintendent, has announced.

The erecting engineer of the Gas Machinery Company of Cleveland, Ohio, together with trained men, have arrived to assume charge of the construction of the new unit, which will be a duplicate of the one now utilized. The material for the new unit is here, having arrived a short time ago.

The cost of the new plant, which will have a capacity of 1,500,000 cubic feet of gas a day, will be approximately $500,000. It will make gas through the water-oil method.

Ample facilities for years to come will be available following the completion of the new plant.

Denver Gas and Electric Light Company Sells Bonds

The Denver Gas and Electric Light Company has sold $10,000,000 of its 7½ per cent gold bonds, due 1946, to W. C. Langley and Company. There was authorized an issue of $25,000,000, the recent sale bringing the amount sold up to $11,207,000. It is believed that the money will be used for the new power plant at Valmont.

Three Part Gas Rate Explained to Commission

Salina, Kan.—The city commissioners spent several hours listening to an explanation of the three part gas rate, which the utility committee of the Chamber of Commerce has recommended for passage by the city. The first session was taken up with the Chamber of Commerce committee and the second with the officers of the Salina Light, Power and Gas Company.

The commissioners listened to the plan of operation of the three part rate, also the plant of the Light company, if the rate is adopted.

The gas company explained that it would reduce the gas rate in 90 per cent of the Salina homes, and increase the rate in ten per cent of the places. Of the ten per cent whose rates are to be increased, almost one-half of them are for offices in the business part of the city. Dentists, doctors and others who use gas in offices will have their rates increased.

The committee representing the Chamber of Commerce is composed of Charles Lamer, Guy T. Lamer, Louis Gottschick and Roy Bailey.

The gas company was represented by W. E. Quillan, Harry Warner and J. G. Tooker.

The city commissioners did not take any action, but took the proposition under advisement.

Improvements May Be Made at Gas Plant

Selma, Cal.—L. J. Arrants, R. C. Gibbs and Joe Berry, constituting the committee appointed by the Chamber of Commerce to confer with the officials of the San Joaquin Light and Power Corporation with reference to changing the location of the gas works, met with J. H. Jarnagin, local manager, and E. N. Britton, assistant to the general Manager, recently in the Chamber of Commerce office in Selma.

The committee asked Mr. Britton if it was practical to relocate the gas works as they understood that the company contemplated making some improvements. Mr. Britton stated to the committee that is was the desire of the power company to co-operate with the city in every way possible in making Selma a better place in which to live, but it was not practical to move the gas works, as it would entail a great expense, which would reflect directly on the gas rates, thereby affecting every gas consumer.

The changes contemplated can be made at comparatively small expense, but removal to a different location would mean almost complete loss of the present plant. That would entail twice the investment now in the gas plant and require rates to all consumers to be almost doubled.

Contract Awarded

The Public Service Corporation of Pontiac, Illinois, has awarded contract to The Gas Machinery Company, Cleveland, Ohio, for one complete bench refilling.

The work will consist of one complete filling of nine silica sectional retorts and settings, also recuperators and auxiliary equipment.

New Water Gas Generator for Hartford, Conn.

The Gas Machinery Company of Cleveland, Ohio, is furnishing a new ten foot water gas generator and auxiliary equipment to be installed in the works of the Hartford City Gas Light Company, Hartford, Conn.

Gas Consumption in Salem Gains 10 Per Cent for Year

Salem, Mass.—Officers were elected, reports read and other routine business was transacted at the meeting of the directors of the Salem Gas Light Company.

Among the interesting features of the reports were the fact that sales of gas for the year ending June 30 of this year were 10 per cent in excess of those for the previous year. Four hundred gas ranges and as many gas heaters were sold and installed in homes by the company during the year.

Twenty-four hundred feet of high pressure line was laid to the Willows section to take care of the wants of the people of that section and 6000 feet of high pressure line was installed in South Salem to care for customers of the company in that district. The sum of $10,000 was expended in improving the water gas section of the company's plant.

No action was taken on any further reduction in the price of gas, as the possibility of coal troubles and higher prices for coal forbade such action at this time, it was stated. To protect itself and the consuming public, it is interesting, however, to learn that the company has five months coal supply in its sheds.

Following is a list of the officers and directors, all being the same as previously: President, Henry A. Hale; treasurer and clerk, John L. Tudbury; directors, George W. Grant, Samuel H. Batchelder, Charles R. Pritchard of Lowell, Andrew W. Rogers of Beverly, Sidney W. Winslow of Boston and Messrs. Henry A. Hale and John L. Tudbury.

Gas Company Will Improve Service

Port Huron, Mich.—The Muskegon Traction and Lighting Company has work under way which will greatly improve the service to its gas customers. The company is preparing to install a pumping system to maintain a high pressure over the entire city. The one improvement will cost around $10,000. This improvement is in addition to thousands spent this year in the construction of additional mains.

As Muskegon is spread over a wide area, difficulty has been encountered at times in maintaining the pressure at certain points desired. To remedy this situation the company decided to install a pumping system which will act as an auxiliary and maintain high pressure in all parts of the city.

Assessment Boost of Local Gas Co. Is Before Higher Court

Frankfort, Ky.—The Owensboro Gas Company applied to Judge W. Rogers Clay, of the court of appeals, for a restraining order to enjoin the city of Owensboro and its board of supervisors from increasing the assessment of the company from $90,000 to $192,000.

The controversy between the city and gas company arose several years ago when the latter began increasing its gas rate, which was then $1 and is now $2 a thousand cubic feet.

The gas company, in making the increase, contended that it was necessary in order to realize on an investment of nearly $420,000. The president of the company placed the value of the property of the company at $320,000 with a replacement value of $420,000. The board of supervisors then assessed the property of the company at 60 per cent of the value placed on it by the president.

The company is now seeking to enjoin the city and the board of supervisors from making the increase.

Thousands See Gas Company's New Building

Shawnee, Okla.—In response to the invitation of the Shawnee Gas and Electric Company to its patrons to be its guests at the formal opening of the company's new building on North Broadway, it was estimated by C. B. Owens, manager of the Shawnee office, and others, that between three and four thousand persons called during the receiving hours, which were from seven to nine o'clock. Manager Owens and his genial staff were hosts, and right royally did they entertain their guests.

Music was furnished throughout the evening by a stringed orchestra and punch was served the visitors. Other features of interest also proved popular.

The company was recently taken over by the Oklahoma Gas and Electric Company of Oklahoma City, and over twenty of the officials and office employees of the Oklahoma City offices motored over to attend the meeting, among them being J. F. Owens, vice-president and general manager of the company.

E. J. Rosenauer Made Auditor of Wisconsin-Minnesota L. & P. Co.

E. J. Rosenauer, formerly general auditor of the Southern Colorado Power Company, has resigned to become assistant treasurer and general auditor of the Wisconsin-Minnesota Light and Power Company, with headquarters at Eau Claire, Wis. Mr. Rosenauer has been connected with the Byllesby interests for sixteen years, the last ten of which he held the position from which he just resigned.

Albany Gas Co. Files Notice of Appeal

Albany, N. Y.—The Municipal Gas Company of Albany, through its attorney, Neile F. Towner, has filed a notice of appeal from the order of Supreme Court Justice Joseph Rosch denying the company an injunction which would restrain the city of Albany from attempting to enforce an ordinance prohibiting the erection of a gas holder within the city limits, on the ground of the unconstitutionality of such ordinance.

Justice Rosch granted an order requiring the superintendent of buildings of the city of Albany to consider the plans and specifications of the gas company for the erection of the holder, from which the city has taken an appeal.

The appeal filed by the company will bring the two questions involved before the appellate division of the supreme court simultaneously, the one involving the constitutionality of the ordinance and the other the status of the writ of mandamus compelling the city officials to consider the plans filed by the company for the erection of the holder.

Gas Company to Have New Capital

Racine, Wisc.—One million dollars in new capital is to be provided for the Wisconsin Gas and Electric Company by certificates which have been authorized by the securities division of the Wisconsin Railroad Commission. These securities will give the company controlling all of the utilities in Racine and Kenosha a chance to issue new securities amounting to $600,000 and to release a large amount of bonds which have been posted as collateral for sale.

Gas Ranges in Tourists' Camps

What may be called a new field for the merchandising of gas ranges was brought to light recently in a tourists' camp at Omaha. Neb. This was a big motor camp for tourists and their cars, and contained complete equipment with all conveniences. There was a large brick building in the camp in which there were lavatories, shower baths with hot and cold water, a fine laundry and entire kitchen equipment in which there were 13 gas stoves and 15 gas plates.

It must be said that this is a clever idea and opens up business for the sale of gas ranges, water heaters, etc. A wide-awake business manager can very likely equip camps of this nature wherever they exist with the conveniences that are afforded by the use of gas.

We are indebted for this item to the George D. Roper Corporation.

Ashtabula Gas Co. To Sell Artificial Gas

Ashtabula, Ohio.—The Ashtabula Gas Company accepted the rate ordinance passed by city council July 16th and will start within two weeks to lay a ten-inch pipe line from the plant of the Diamond Alkali Company at Fairport, according to a statement made by Manager F. W. Stone.

According to Mr. Stone this definitely assure Ashtabua of all the artificial gas it can use early next year. The rate ordinance allows the company $1 for the first 500 cubic feet and $1.10 for each additional 1000 cubic feet. Chances for a referendum vote on this ordinance died with the expiration of the 30-day time limit.

The gas company proposes to start construction of the large main in August and a construction company states it can complete the line in 40 days. A 10-inch main, it is said, will carry ten times the amount of gas needed for Ashtabula. A right of way has already been secured but the route will not be made public until construction engineers have been over the route.

The Diamond Alkali Company's new plant will not be finished and ready to furnish gas before late in January, it is estimated. Nothing will be done until next year towards the construction of a gas holder here.

It will require 100 carloads, or 30,000 tons, of pipe and seven carloads of couplings to lay the line. Its cost with other necessary expenses is estimated at between $350,000 and $400,000. The line alone is estimated at $300,000.

Awards Contract

The Interstate Public Service Company of Bloomington, Indiana, have awarded to the Western Gas Construction Company contract for the installation of a 6 ft. by 5 ft. by 5 ft. Water Gas Set complete with hydraulic operation, No. 5 design 4 Sturtevant Blower, No. 5 P. & A. Improved Tar Extractor, and a 6 ft. by 25 ft. high High Capacity Condenser. With this equipment Bloomington will be in position to take care of the increased demands for a long period.

Appoints Advertising Agent

Albert Frank & Co., Chicago advertising agency, has been retained by the Illinois Power & Light Corporation (The Studebaker Interets) to handle the newspaper advertising in connection with the sixty public utilities operated in Illinois, Iowa, Missouri, Kansas and Nebraska.

Wants Rehearing of Rate Case

Atlanta, Ga.—Official action has been taken by the Atlanta Gas Light Co. and the Georgia Railway & Power Co. to secure a rehearing before the United States Supreme Court in the Atlanta gas rate case, which the court at its last term decided against the company.

To Conduct Advertising Campaign

The Louisiana-Mississippi Committee on Public Utility Information is to conduct an educational advertising campaign in the two states named. Dr. H. M. Blain, professor of journalism, Tulane University, New Orleans, will direct the work.

Determined to Sell Gas Utensils

J. B. Dillon

Never before, in Denver, can the writer recall such diligent, fair and persuasive methods as are now being used to sell gas ranges. Practically every department store, dealers in up-to-date ranges. are illustrating their favorite ranges, offering easy terms to purchasers. Then there is the Denver Gas and Electric Light Company offering the same easy terms, giving a twelve-piece set of glass baking dishes as a lure.

In the midst of this hustling sale time, the Real-Estate Arcade, which was erected as an office building for realtors and was pretty well filled, is now vacant and it is being re-arranged as a permanent exhibition for the display of home building materials and household utensils.

"Good," said Clare N. Stannard, general manager of the Denver Gas and Electric Light Company, "we will occupy this space for the display of gas ranges, water heaters, and show the citizenry how to use gas." Verily this is the Gas Age. It always was, but we haven't pushed the sales with the vim and enthusiasm that is being done nowadays, but is is not too late for those who have been backward to start right now and never let up.

Gas for cooking is the King of all heats. This is as true as words can state. The public are open for conviction as never before. Convince them. It is easy, for your appliances with a little help from you will do the rest.